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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,498	01/05/2001	Michael Yip	2717P030	5235

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EXAMINER	
WON, YOUNG N	

ART UNIT	PAPER NUMBER
2155	20

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/755,498	YIP, MICHAEL	
	Examiner	Art Unit	
	Young N Won	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 June 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. Claims 1-24 have been re-examined.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 10-13, 15-21, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gleeson et al. (US 5959989A) in view of Biedron, W.S., ("Metropolitan Area Network Services Comprised of Virtual Local Area Networks Running over Hybrid-Fiber/Coax and Asynchronous Transfer Mode Technologies", Proceedings of SPIE, vol.2609, Oct.23, 1995, pp.50-57, XP002049372).

Independent:

As per claims 1, 12, and 18, Gleeson teaches a system (see title), a method, and an article of manufacture (see col.9, lines 51-53) comprising: a machine accessible

medium including content (see col.9, lines 51-53); a first virtual local area network (VLAN) and a second VLAN (see Fig.2A and col.5, lines 53-55); and a switch (see col.1, lines 31-37) coupled to the first and second VLANs to receive from the first VLAN a data packet having a first VLAN ID associated with the first VLAN, to replace the first VLAN ID with a second VLAN ID associated with the second VLAN, wherein the second VLAN ID is different from the first VLAN ID, and to forward the modified data packet from the first VLAN (see col.5, lines 59-67; col.6, lines 1-3, 9-26, & 32-45).

Gleeson does not explicitly teach of a system comprising a metropolitan area network (MAN); that a switch is coupled to the MAN; and that modified data packet is forwarded to the MAN. Biedron teaches of a MAN (see title). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Biedron within the system of Gleeson by implementing a MAN within the multiple VLAN aggregate system of Gleeson because connection of one network to another is a matter of preference of a specific need rather than an invention. Also, Gleeson teaches that "several LANs may be interconnected... to form a wide area network..." for "corresponding entities to exchange information" (see Gleeson: col.1, lines 28-34). Therefore, if a MAN were employed, it would be inherent that a switch is coupled to the MAN and that modified data packet is forwarded to the MAN.

Gleeson does not explicitly teach wherein the second VLAN comprises a first VLAN. However, Gleeson does teach wherein the LAN comprises a LAN, which comprises a VLAN (see Fig.2A: LAN of device 221 comprises VLAN 208, 221, and LAN of device 220, which comprises VLAN 204 and 206). The translation or conversion of

one ID to another ID by means of a table would be performed the same regardless of what network comprised of another network, thus this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made implement any network architecture so long as there is switch or agent or manager that maintains a table for the identification of VLANs for proper transmittal within the group and all data must be transmitted via the switch, agent, or manager, because VLAN comprising another VLAN does not functionally relate to the steps in the system, method, and article of manufacture claimed and because the subjective interpretation of the VLAN comprising another VLAN does not patentably distinguish the claimed invention.

As per claim 20, Gleeson teaches of a switch (see Fig.2A, #220-223; col.6, lines 15-17; and col.7, lines 53-56) comprising: a port for receiving a data packet from a first virtual local area network (VLAN) (see col.7, lines 53-56); an assigner to assign a first VLAN ID to the data packet that identifies the first VLAN (see col.9, lines 16-27); a verifier to verify that the assigned first VLAN ID matches a value stored in a memory of the switch (see col.9, lines 57-64); a controller to control the processing of the verified data packet and to replace the verified first VLAN ID with a second VLAN ID that identifies a second VLAN (see col.9, lines 47-53); and a forwarder to forward the modified data packet (see col.6, lines 38-41 and col.9, lines 57-col.10, line 12). Gleeson does not explicitly teach of a system comprising a metropolitan area network

(MAN); that a switch is coupled to the MAN; and that modified data packet is forwarded to the MAN. Biedron teaches of a MAN (see title). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Biedron within the system of Gleeson by implementing a MAN within the multiple VLAN aggregate system of Gleeson because connection of one network to another is a matter of preference of a specific need rather than an invention. Also, Gleeson teaches that "several LANs may be interconnected... to form a wide area network..." for "corresponding entities to exchange information" (see Gleeson: col.1, lines 28-34). Therefore, if a MAN were employed, it would be inherent that a switch is coupled to the MAN and that modified data packet is forwarded to the MAN.

Dependent:

As per claims 2, 16, and 23, Gleeson further teaches wherein the second VLAN further comprises a third VLAN (see col.5, lines 53-55 and claim 1 rejection), and wherein the preventer of the switch further prevents the modified data packet from the first VLAN from being forwarded to the third VLAN (see col.13, lines 6-14).

As per claims 3, 4, and 17, Gleeson teaches of further comprising a switch (see col.8, line 19: "intermediate device") for maintaining a forwarding data base (FDB) for the first, second, and third VLANs, wherein each FDB contains one or more media access control (MAC) address entries (see col.8, lines 19-29), and adding a new MAC address entry to the FDB for each of the first, second, and third VLANs when a new MAC address is learned from the first, second, or third VLAN (see col.6, lines 18-26; and col.16, lines 30-35).

As per claims 5, 13, and 19, Gleeson further teaches wherein the switch further to receive from the MAN a second data packet having the second VLAN ID, to replace the second VLAN ID with the first VLAN ID, and to forward the modified second data packet from the MAN to the first VLAN (see col.6, lines 32-45).

As per claims 10, 11, and 15, Gleeson further teaches wherein the first and second VLAN ID is obtained from an internal value stored in the switch (see col.6, lines 41-45).

As per claim 21, Gleeson further teaches wherein the assigner further identifies the second VLAN based on the contents of the data packet's source Internet Protocol (IP) address (see col.7, lines 5-6).

As per claim 24, Gleeson teaches of further comprising: a second port (see Fig.2A and col.8, lines 6-11) for receiving a second data packet from the second VLAN, and wherein the assigner to assign the second VLAN ID to the second data packet that identifies the second VLAN (see col.9, lines 16-27), the verifier to verify that the assigned second VLAN ID matches a second value in the memory of the switch, the controlling to replace the verified second VLAN ID with the first VLAN ID that identifies the first VLAN (see col.9, lines 57-64), and the forwarder to forward the modified second data packet to the first VLAN (see col.6, lines 38-41).

3. Claims 6-9, 14, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gleeson et al. (US 5959989A) and Biedron, W.S., ("Metropolitan

Area Network Services Comprised of Virtual Local Area Networks Running over Hybrid-Fiber/Coax and Asynchronous Transfer Mode Technologies", Proceedings of SPIE, vol.2609, Oct.23, 1995, pp.50-57, XP002049372), and further in view of Crinion et al. (US 6181699B1).

As per claims 6, 8, 14, and 22 Gleeson and Biedron do not explicitly teach wherein the first and second VLAN ID is obtained from a header encapsulating the data packet by an assigner. Crinion teach wherein the first and second VLAN ID is obtained from a header encapsulating the data packet (see Fig.4; col.4, lines 1-4; and col.5, lines 35-37) by an assigner (see Fig.1, #140). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Crinion within the system of Gleeson and Biedron by implementing obtaining ID's from header encapsulating the data packet within the network multicast system because Gleeson teaches of tables (see col.8, lines 20-29) and header (see Fig.4A) and for tables to be functionally effective, the data must contain something for the device to compare on the table with the received data. Therefore, since encapsulated headers are well known and widely used in the art, it would be obvious to implement such a mechanism to obtain VLAN ID's.

As per claims 7 and 9, Gleeson and Biedron do not explicitly teach wherein the header encapsulating the data packet is an Institute of Electrical and Electronics Engineers (IEEE) 802.1 Q frame tag. Crinion teaches of header encapsulating the data packet is an Institute of Electrical and Electronics Engineers (IEEE) 802.1 Q frame tag (see col.1, lines 15-18; col.2, lines 63-65; and col.4, lines 1-3). It would have been

obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Crinion within the system of Gleeson and Biedron by implementing header encapsulating the data packet is an Institute of Electrical and Electronics Engineers (IEEE) 802.1 Q frame tag within the network multicast system because by employing a standard in the industry makes the network infrastructure protocol insensitive and thus cost effective by eliminating the need for additional hardware or software.

Response to Arguments

4. Applicant's arguments with respect to the arguments regarding a MAN have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's arguments filed June 5, 2003 have been fully considered but they are not persuasive. The independent claim stating of one network comprising another is not functionally patentable. A VLAN comprising another network (whether it is a LAN or another VLAN will not be the deciding factor in receiving a patent because the architecture of a network cannot be patentable unless there is shown an improvement such that the functional aspect negates other networks from being employed. The limiting factor in the claims is the re-mapping scheme of VLAN ID's, which is clearly taught by Gleeson.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Young N Won whose telephone number is 703-605-4241. The examiner can normally be reached on M-Th: 8AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T Alam can be reached on 703-308-6662. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Young N Won

July 14, 2003

HOSAIN T. ALAM
PRIMARY EXAMINER